Character of Justice and Endorsement of Law

Bernhard Bierschenk

2019

No. 145





KOGNITIONSVETENSKAPLIG FORSKNING

Cognitive Science Research

Character of Justice and Endorsement of Law

Bernhard Bierschenk

2019

No. 145

Cognitive Science Research

Lund University University of Copenhagen

Editorial board

Bernhard Bierschenk (editor), Lund University
Inger Bierschenk (co-editor), University of Copenhagen
Ole Elstrup Rasmussen, University of Copenhagen
Helge Helmersson (adm. editor), Lund University
Jørgen Aage Jensen, Danish University of Education

Cognitive Science Research

Copenhagen Competence Research Center University of Copenhagen Njalsgade 88 DK-2300 Copenhagen S Denmark

Adm. editor

Helge Helmersson Dep. of Business Adm. Lund University P.O. Box 7080 S-220 07 Lund Sweden

Character of Justice and Endorsement of Law

Bernhard Bierschenk

Abstract The mental event horizon of law maker can be analysed, based on the Agentaction-Objective [AaO] paradigm. The roots of [A] and [O] are used with the purpose to explain structural novelties, resulting from an approach to Hammurabi's Epilogue to his code of Law. Though, the particular operations of translating the code into English and the production of corresponding rotations have an influence on the developing spaces of intention and orientation. The concept of a landscape allows for the production of valid textual resonance spaces. Produced by the [AaO] formalism, individual string movements on the micro-level allow their coupling with trends in the global text dynamics. To catch the fundamental implications of the concept implies a new kind of conservation principle which can be approached experimentally. In applying the Vertex procedures of Perspective Text Analysis, it is shown that state attractions can be established and transformed. By tunnelling the anticipated English Language barrier, ingrained structures become the outcome and may result in the essential meaning of the Epilogue. By naming the final and all-inclusive state termini, with Character for the intention dimension and Endorsement for the orientation dimension, time-dependent and convoluted information structures have been shown to emerge as proper result.

String Rotation and Grapheme Production

The idea that biologically determined string rotation and grapheme production mechanisms may exist that are steadily causing new forms of expression has been unthinkable up to now. Additionally, it is proposed that the roots of the emerging structures are produced by two autonomous clocks, which means that language and its asserted open-endedness must be conceived of as part of the biological foundation of language. It may also be noted that a *reversible synthesizing mechanism* (Hernández, Kay, & Leigh, 2004) has become manifest which is governing the process, which from the biological point of view must be treated as a most primitive production mechanism (for an thorough discussion, see Hardison, 1999). What is fundamentally new with this mechanism is a search for novel structures that are the result of rhythmically operating work cycles which are driving textual flows in the direction towards the sharpest increase in acceleration (I. Bierschenk, 2019). Therefore, the rhythmic and clock-like working mode of natural language production is expected to generate structures that are dependent on the observation of morphogenetic properties.

A study of the involved verbalising processes, implies that "text building" (Latin: *verto*) procedures become manifest in which the becoming (German: *werden*) of a text and the Swedish verb *varda* denote the textual procedures. Equally important is the implication of the Latin notion *vertex* which is characterizing the *Vertex*-version of *Perspective Text Analysis* (I. Bierschenk & B. Bierschenk, 2011). Thereby, a whirl is anticipated within textual flows, which implies a spin or rotation. Since this kind of text analysis builds on the verb-variety revolving around its axis, it is expected to reflect the emergence of meaning.

By applying the Agent-action-Objective [AaO] model to the Epilogue of Hammurabi's Code of Law which evolved about 2000 years BC, intention and orientation of one of the oldest and most complete written collections of laws (Roffer, 2015, p. 14) can be studied scientifically and in strictly technical terms. Further, by means of the landscape concept a new kind of conservation principle can be applied to the resulting structures and their naming. With the purpose to find out whether a particular transformation would imply profound differences in naming of the produced attractors, their unifying fusion capacity will be made visible through the employed naming function, shown in the Appendix, Table A2. Text building behaviour and space related operations take care of corresponding information shifts and naming plays an important role. Thereby, the rhythmic and clock-like working mode of natural language production generates uniqueness, which is dependent on the observation of morphogenetic properties.

Splitting and Splicing the Strings in a Textual Flow

The essential first step concerns the syntactical definition of a Functional Clause (I. Bierschenk, 1999/2003, 2011) and the operational distinction of the Agent [A] and the Objective [O] position. The positions are only two and appear either before the verb, which implies the [A] place, or after the verb, which relates to the [O] place. The two positions form the widest possible openings for the revolving process to come about. In this way the [AaO] mechanism is put into operation by the model but is not the model itself. Further, two kinds of dots (B. Bierschenk, 2002) have to be introduced if any imaging in real time shall have the capacity to distinguish one state of a dot from another state. Figure 1 is illustrating in what way the dots are working in a single [AaO] unit, which possesses a rotary motor.

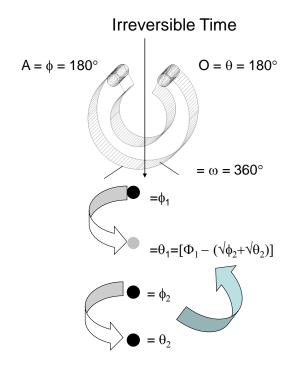


Figure 1 Dot rotations within the AaO-ring structure

The Figure suggests that one or more sub-units rotate against the others. In addition, the concepts of production and evolution are introduced, which require the concept of wholeness $(\omega = 360^{\circ})$. For approaching the state of a particular sub-unit in the [AaO] configuration, it is absolutely necessary to associate relaxed and non-relaxed states with the dots. Only in this way are they approachable. Hence, if a non-relaxed state is associated with a filled dot a distinction can be made in relation to the relaxed state, associated with the unfilled dot.

Offered through equilibration of the developing language equations, the components [A] and [O] refer to directiveness in the biological sense and change in orientation with respect to specific language solutions. An equilibration of the developing equations is proposed to be based on the following hypothesis: Multiply stable states are organising themselves into several different state attractors through which the invariants of intention and orientation can emerge and give expression to fitness.

The discovery of the dynamics of a text requires the establishment of a "Fließgleichgewicht" (= floating equilibration). This term was introduced by Bertalanffy (1950, pp. 23-29), which until recently has remained outside the scientific scope of inquiry. It follows, according to Baeyer (1999, pp. 12-14), that one must be able (1) to make the implied text producer known through the produced text, and (2) to recover the underlying intention and orientation through attitudinal changes step-wise and without intervening dissociations and in perfect order. Consequently, the essential property of a text is that it consists of a sequence of strings of graphemes. This sense implies that the string concept is replacing the classical hypothesis of a zero-dimensional point. As presented by Brian Greene (1999), the string theory, suggests that a string is founded on the premise "(...) that a particle is not point like, but instead consists of a tiny one-dimensional loop. Like an infinitely thin rubber band, each particle contains a vibrating, oscillating, dancing filament (...) named a string." (p. 14)

According to Greene's hypothesis, the production of a string appears in the presence of a small kinetic potential (v_p). Since the verb (v) function of a string of graphemes represents the energy needed to produce a signal of intent, it is controlled by the stepping function, marked with (i), which governs the materialisation of a kinetic potential in the form of a signal (σ_i) . Moreover, kinetic energy is generating the flow field in which produced strings can move. However, when strings are resonating, marked with (Δ) , they are producing a spectrum for the expression of $(v_p \wedge \sigma_i)$, which leads to the bi-directional grapheme-vector (|g|). Therefore, the outer product (\wedge) provides a unique relationship, which constitutes the foundation for a distinction between directiveness and orientation as a function of states.

Later, the expression of uniqueness in the form of (g) has to be contrasted simultaneously with the property of pureness. To catch the fundamental implications of this string approach requires resonance properties ($\Delta \sigma_i$) without which the determination of the validity of a string would be deceptive. Thus, any phase transition from a virtual to a material state must result in an increase in rotational distance. "Spinors" in Hestenes' terms (1993, p. 30) have the capacity to establish rotations at the material level, they can represent grapheme movements as directed surface segments, and offer a control of the involved transitions.

Characteristic of the governing of the involved (A) and (O) clocks, is that statedependent angles are captured in the exponential relation ($e^{i\theta}$), where (i) specifies the intentional plane of the angles of rotation, while ($|\theta|$) specifies the magnitude of an angle and the straight brackets denote the absolute value of the operation. When a certain number of rotations through the angles have been processed, the result appears as multiplicative redundancy. This functional expression is compatible with Hestenes (1993, p. 68) formulation. He writes: "The fact that a rotation through an angle (i θ) followed or preceded by a rotation through an angle $(i\phi)$ is equivalent to a rotation through an angle $[i(\theta+\phi)]$ is expressed by the equation $[e^{i\theta} e^{i\phi}] = e^{i(\theta+\phi)} = e^{i\phi} e^{i\theta}$. This formula follows from Moivre's

theorem $[e^{i\theta,\phi})^n = e^{in\theta,\phi}]$. However, the exponential function and its series expansion require that angles become measured in radians (Hestenes, 1993, p. 75). Founded on the hypothesis that distance is a function of rotational acceleration, spinors are shown to have the capacity to form a surface, which can carry grapheme sequences of varying complexity.

Due to the production of graphemes, the rotation mechanism is composing strings of graphemes into sequences that are specified by time-dependent rotations. Timing the effects of a kinetic potential on the patterning of strings means that real time imaging becomes feasible. Both, string rotation and grapheme production allow for the evolution of kinematic trajectories. In the first case, timing kinetic processes determines the transformation of a potential into a grapheme. In the second case, timing means irreversible thermodynamic movements. Corresponding periodic work-cycles (κ_i) of the operating processes become terminated whenever a Fließgleichgewicht has come into existence. However, any time a new phase is initiated, cyclic returns become reactivated. Expressed in geometrical terms, dot imaging involves the following rotations:

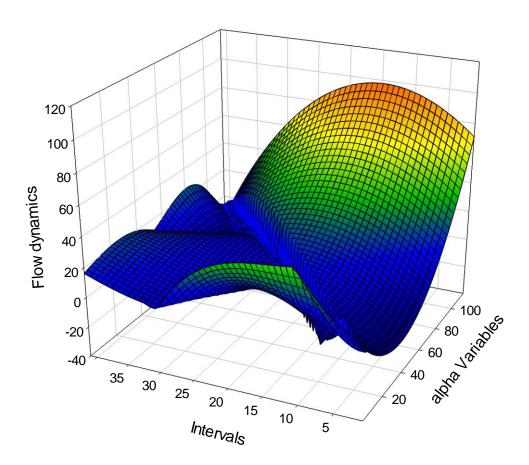
The O-clock first moves one turn counter-clockwise and is thereby establishing zero degrees for the empty place (marked by the dummy). Thereafter, the clock is initiating another turn to mark that the empty place will be filled with the second case ($\sqrt{\theta}_2+\sqrt{\theta}_2$). Since the entire ring constitutes unity (360°), the second turn leads to the establishment of (360°) for the dummy. Reversible rotation transfers the strings on both components counter-clockwise and in the same direction to eliminate the implied zero point of the first case, namely (θ_1). Consequently, rings are evolving in work spaces, which have the hyperbolic property of intrinsic as well as extrinsic curvature (Wisdom, 2003). Thus, rings are organising themselves in hyperbolic spaces which are negatively curved.

By definition, negatively curved spaces are hyperbolic at any level and require that ordinary geometry is replaced with what has become known as non-commutative geometry (Connes, 1994 p. 7; Greene, 1999, pp. 379-380; Hestenes, 1994, p. 66). In advancing further the hypothesis of a reversible synthesizing rotary AaO-motor, the function will be used to demonstrate that the theoretical significance of an [AaO] configuration relates to the way in which the essence of a particular discourse is assumed to be structurally invariant.

When a string of graphemes makes up the context, cooperation between intention, associated with [A] and orientation, associated with [O] is no longer the objective of the physical conditions of making experience. Instead, it is the hyperbolic determination of regional as well as global states of attraction. Thereby, new constraints are produced, which pass beyond the limit of their material sources. The major premise of this approach is that a string of graphemes always is produced with a perspective that is unique to its originator. By processing a selected text it becomes possible to represent its structure through Potential Energy Surfaces (PES) as well as Free Energy Surfaces (FES).

When resonating alpha variables of [A] have become copies, a tracing operation of the supplementation (S) mechanism has the capacity to describe shadow-like wave functions. It follows that the displacement and supplementation procedures form the basis for the autonomous calculation of the resonating magnitude of a variable. Magnitudes are decisive for the manifestation of the rotational dynamics of a variable. Since radians are expressing the functional relation between changes in a gradient and the magnitudes, which appear at the edges where a change originates, the radian is responsible for the generation of the shifting shades of a function. These shifts must be proportional to the speed and acceleration of a variable and its rotational displacement. A mark on a resonating string is generating a perpendicular compound-relationship in the flow fields of the Functional Clause. At a first glance, Figure 2 reveals that the trajectories of the Agent component show remarkable depth relations in the course of its pattern formation.

Epilogue Agent



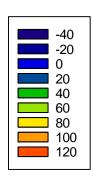


Figure 2 *PES of the Agent component*

The Functional Clause translates resonating strings of graphemes into variables. The importance of producing composites out of compounds lies in the generation of variables and concerns the acceleration in the involved rotations. The Functional Clause is accentuating the production of mono-layered as well as multi-layered composites. To the extent that it becomes necessary that more copies become rotated and integrated, the deeper develops the shading of a gradient. Since the [A] gradient develops in front of itself, the [A] function is describing a forward or downward directed path.

In that the dummy $[\emptyset_A]$ holds conserved variables, multi-layered composites appear always in open spaces. When one and the same alpha variable keeps its course in the articulation over several flow fields, the repetitions are relatively few in practice. Usually, repetitions fluctuate between one and seven. Through the clocking mode of the involved pendulum, it is possible to denote corresponding increases in shading, which finally carry structural significance.

All the main features of the interval and variable indication mark the flow dynamics of PES. Drifting over PES may cover the exceptional range of seven phases and may emerge in several basins. In the actual study of the Epilogue, the transition from one state to another involves 116 variables and 41 intervals. As the maximum depth of the first basin (local minimum) confirms, the shifts have occurred through the differential influences of the rotations in the intervals (7 to 11).

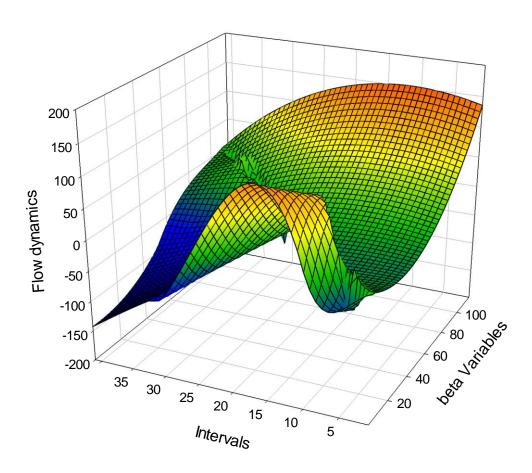
Emerging in PES is a manifested speed in the intervals (25 to 28) which determines a certain degree of height (local maximum). On the other hand, accelerating the process in order to reach a firm depth in the intervals (38 to 41) is followed by the process through which the variables in the intervals (37 to 38) are integrated. The fading of a textual agent into the conceptualization process always implies development towards a basin. Especially the depth of the basins derives its essence from the fundamental import for the visualization of the sources of intentionality which is fundamental to the assumptions of stability in self-reference.

Stability as central concept is important for the understanding of PES, because stability can be lost. Exactly this kind of discontinuity can be observed through the basins. It is at the steep, where the formed patterns are changing spontaneously and without any noted ordering influence from outside. An observable instability is the result of a critical change in the degree of rotation and a larger increase in the time it takes the process to relax from the critical speed in the phase transition and to slow down to the speed level of the initial phase. Whenever a depicted process is advancing from one state to the next, involved quantities are establishing its degree of directness. It follows that a steep below zero corresponds operationally with higher rotational acceleration, compared to a non-negative speed expression. Therefore, the depth of the basin in the centre of PES is primarily a function of indirectness and governed by the dynamics of the underlying multiple redundancies in the [A] function. In sum, the complexity of a trajectory grows as the result of shading. Shading implies that virtual properties are characterising displaced alpha variables.

Variable displacement through the supplementation [S] function allows for a more elastic and fluid form of indexing geometric properties. Angular articulation and changes in attitude have generated a relationship that reflects spontaneous displacements at each cycle of processing. Shifting accelerations manifest shifts in shading, which get numerical expression on the tracing path. Complexity can be calculated without intervening disruptions and changes in angular articulation can be restructured. For example, radians serve the purpose of manifesting a gradient as an expression of rotational acceleration. What is particular for the acceleration can be abstracted from PES of the [O] component. As the shadows become longer and longer, the number of refractions grows and a growing number of rotations become involved in the developing trajectory. This condition implies that angular articulation and attitude change in the mathematical sense provide the context for the manifestation of the theoretical significance of any PES as a more fundamental object compared to FES since there is no requirement for a subjective choice of order parameters (Wales, 2003, p. 2).

Since intermittent phase-transitions are resulting from changes in the stability of a gradient, phase-transitions lead to changes in acceleration and the identification of a basin, which is forming a pronounced depth relation in the response surface of Figure 3.

Epilogue Objective



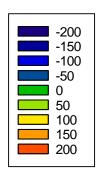


Figure 3 *PES of the Objective component*

Focussing on the dynamics at the steep of the graph shows that a shift one step to the left would not influence significantly the characteristic depth of the wave function. The relative phase remains and the cyclic clocking of the [AaO] mechanism is revealing the existence of a disposition that governs the [O] component in its pattern formation. Furthermore, minor fluctuations are from a biological point of view only natural, because textual flows are the result of breaking or lowering spatial and temporal symmetries all the time. Since its evolving structures depend on the generation of discontinuities and asymmetries, the complementary

results of the rotations are the outcome of corresponding constraints on the flow morphology. However, PES is dependent on the constraining effects of the system states and how these states are governing the stretching activity over the intervals. As a rule, this means that PES builds on the principles of disparity.

Of particular interest is the variation in distance. Particular areas are clearly the result of higher degrees of rotation and thus farther away than others and a definite demonstration of a certain degree of depth. In the forefront, operating processes appear in the intervals (7 to 9) and are intersecting the basin. In contrast, the variables in the intervals (9 and 10) are marking a rotational speed which has produced a morphological disparity. Definitely connected with contrasting accelerations are some other areas which are marked by variables in the intervals (35 to 38).

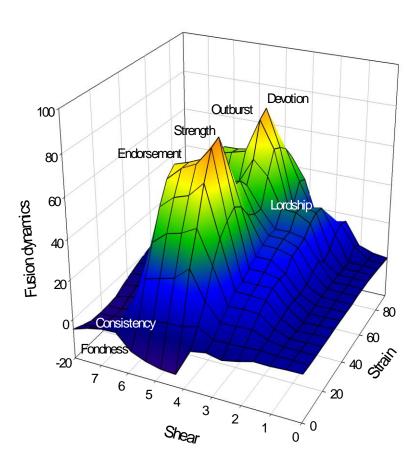
Moreover, a bubbling crystallisation is responsible for the disparity in the intervals (18) to 19), which is marking centre and background. The morphology, presented thus far, is totally different from all previously performed analyses. The main difference concerns its intentional and self-organising capacity. Therefore, certain changes in viewpoints have resulted in profound morphological changes. By the method presented, it has been made possible to show that the [AaO] mechanism not only is a useful instrument for the identification of the individually defined co-ordinates of a language space, but also a reliable instrument for the establishment of evolving temporal morphologies. A concise description of parallel causation in the alpha and beta strands could be achieved only on the basis of Hestenes rotation theory. In Hestenes (1993) words this theory implies that "(...) real physical geometry is a non-Euclidean geometry of a 4-dimensional entity space-time, with respect to which the separate concepts of space and time only describe the view point of a particular observer" (p. 583).

Fused String Rotations

A convenient device for the visualization of fused string rotations and evolving curvatures in complex landscapes is to rule a coordinated grid on the source space and to examine the layout of the resulting folds. The entire folding for the Epilogue is reproduced in Table A2 of the Appendix. The folding operation opens a new perspective on the dynamics, related to the attractor spaces. In contrast to the X-axis of the sequencing space, illustrated in the Figures 2 and 3, the X-axis of the concentration space of Figure 4 is responding to Strain, while the Y-axis, instead of carrying the intervals, is now specifying Shear. Furthermore, the Z-axis, instead of representing the flow dynamics, is now related to the Fusion dynamics. When connected to the distance in a folded space, the Fusion dynamics gives expression to the characteristics of the mountains and valleys, emerging in Figure 4.

For assessing the meaning of a state attractor [T], it is essential to conceive the development of its conceptual import as result of changes in degree of complexity. Linked to neighbourhood, reversible covalent interface smoothness generates novel conditions for the coupling configuration and prevents ambiguity. For the process to become comprehensible, it is worthwhile to follow up the generated termini, by going back to the source text. Controlled state-changes are expected to lead to preciseness in the communication of the produced information invariants. Moreover, a detailed description of the steps involved in the transformation, implies that a sequence of attractors allows for thorough abstraction and naming. Table 1 contains, the global state attractor, manifested in Figure 4, namely Endorsement (T_{167}) as the best approximation of the outcome of the entire transformation path. Endorsement has become the final state of attraction. It signals a clear and unequivocal commitment to stability and growth. Transforming the path towards its final state attractor begins with binding a sequence of grapheme strings to the point attractor *Fondness* (T_{166}).

Epilogue Orientation



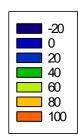


Figure 4 FES of the Orientation component

The underlying abstraction is based on the edge value of Table 2. The term is addressing a disposition of mind that is implied when feelings are governing a state of being. In the case of the Babylonian authority, the code of law is endorsed because it should give excessive weight to justice over coming millennia. Written in stone, it is meant to be conceived of as a signature which is authorizing its eternal transfer. Most important is the code in the light of its true and genuine weight as a public declaration of the Babylonian supremacy through which it is endorsing future sovereigns.

Table 1

Transformation of T_{165} through T_{166} to T_{167}

T ₁₆₅	126.0054	Dependability
T ₁₆₆	-48.8326	Fondness
T_{167}	77.1728	Endorsement

Millennia later, the Napoleonic code may serve as an example of a law code which "came to be venerated across the world for its clarity, concision and simplicity". Napoleon remarked: "But what nothing will destroy, what will live eternally, is my Civil Code" (Roffer, 2015, p. 112).

Table 2

Transformation of β_{13} *by abstraction to* T_{165}

	.,	105
D	0	
β_{13}	-48.8326	love('In E-Sagil, which I+let my name+()be ever+()repeated()'
T ₁₆₆	-48.8326	Fondness

This is the step in the process were the grapheme strings together with a certain number of supplementations (...) have an influence on the development of the entire configuration. The variable (β_{13}) connects to the grapheme string (love('In E-Sagil, which I+let my name+(...)be ever+(...)repeated(...)'). The key words in the sequence encompass a variety of strong and positive emotional and mental states. The sequence refers to the temple which contained the cult image, inhabited by Marduk and surrounded by cult images of the cities that had fallen under the hegemony of the Babylonian empire. According to the transformations of the [O] component, the variable forms the state attractor Fondness (T_{166}) which acts on (T_{165}) , i.e., Dependability.

Table 3

Transformation of β_{101} *by abstraction to* T_{164}

D	0	
β_{101}	-34.0399	Have(the rule, statute, and law of the land which I+give()
		+decision whichI+have(+()made()with this inscription
T_{164}	-34.0399	Consistency

Most important of the indication of (T_{166}) , i.e., Fondness is a feeling of kindness and benevolent concern for the 'good of the people in the land'. Connected to the central theme, it is expected to facilitate the continuation of the people. For this reason the attractor (T_{166}) , acting on Dependability (T_{165}) must be taken into account. If the name Fondness (T_{166}) shall have any influence, it must result in something transformed which means something new. However, this step requires a delineation of the weight of Fondness (T_{166}) and a continued pace in the path towards further terminal states. This condition implies that the terminal string (β_{101}) comes into focus and gets connected with the state (T_{164}) , i.e. Consistency.

Table 4

Transformation of β_{16} *by abstraction to* T_{162}

	· j	102
D	0	
β_{16}	-29.7586	Repeated(In E-Sagil, which I+let+()+oppressed who()
T_{162}	-29.7586	Reiteration

The transformation, resulting in Restatement (T₁₆₃) through Consistency (T₁₆₄) has as its outcome Dependability (T₁₆₅) which may be confirmed by an examination of Table A2 in the Appendix.

Table 5

Transformation of T_{161} through T_{162} to T_{163}

T ₁₆₁	189.8039	Contribution
T ₁₆₂		Reiteration
T_{163}	160.0453	Restatement

Devotion

When Marduk, the city God of Babylon, sent Hammurabi to rule over the people and to provide them with the protection of the right to land, Hammurabi became the king of "righteousness", which implied his ability to bring about the well-being of not only the wealthy but also the oppressed inhabitants (King's, 1915 translation of the code of law). As shown in Table 6, the commitment to the purpose of governing the people is captured by the attractor (T₁₁₅), which has the highest value and which has been named Devotion.

Table 6

Transformation of T_{113} through T_{114} to T_{115}

	<i>J J</i>	113	117	113
T_{113}	419.9453	Endowment		
T_{114}	7.3947	Adoration		
T_{115}	427.3400	Devotion		

Since Endowment (T_{113}) incorporates the attractor (T_{114}) of Table 8, namely Adoration, it has become transient, and a novel pair of neighbouring values has been formed, which demands a sequential ordering. A repeated reference to the City God 'Marduk' may be mindboggling but not in the light of the remark of President Lincoln who "was not afraid to acknowledge publicly that God's judgement can bring tragedy to a nation" (Presidents Day Advice, 2012, February 17). The attractor (T_{115}) is the result of the relations reproduced in Table 7 and 8.

Table 7

Transformation of β_{54} by abstraction to T_{112}

1 / 0////	germenten eg	pytey destruction to 1112
D	0	
β_{54}	8.47	For ever and ever
T_{112}	8.47	Eternal

The calculation in Table 7 embodies the critical value (β_{54} =8.47) and implies that the progression builds on the grapheme string 'for ever and ever', which has led to the attractor (T_{112}) and abstraction, named Eternal. The attractor (T_{114}) of Table 8 marks primarily Adoration as an act of homage or worship.

Table 8

Transformation of β_{61} *by abstraction to* T_{114}

D	0	
β_{61}	7.3947	Pray with full heart
T_{114}	7.3947	Adoration

© 2019 by Bernhard Bierschenk

All rights reserved.

In ancient times the image of gods like Saturn and Hercules were adored and the custom was transferred in the middle ages to monarchs. Even the pledge of a sovereign of his allegiance to a governing symbol is the expression of a commitment and devotion in its firmest sense. The result is an act of binding oneself (intellectually or emotionally) to the course of action. The liege in this allegiance comes from the Old French word meaning "lord and master", which tells how a governor would have been swearing his allegiance millennia ago. Kissing the sovereign's hand and some other acts that are performed while kneeling, may be counted as forms of adoration.

Lordship

The concept of Lord implies an appellation for a person or deity, like 'Marduk' who has authority which means the right to exercise power. Table 9 shows the relationship of the concepts, responsible for the transformation.

Table 9 Transformation of T_{40} through T_{52} to T_{53}

<u> Transjormanion o</u>		1 149 1111 011811 1 32 10 1 33
T_{49}	180.3814	Annexation
T ₅₂	14.4142	Patrician
T ₅₃	194.7956	Lordship

The recorded use of the concept Lordship (T_{53}) in Table 9 is addressing the reference to the deity 'Marduk', the City God of Babylon. Lordship, when formalized by a city state, may be exercised through judges or by priests, appointed to represent God or other deities. A particular case is present in the Brehon of Ireland (Higgins, 2014). Besides the ruler of a state, Brehon as appellation denote certain persons who hold the title or belong to a peerage. The title Lord may also be applied as courtesy title. Collectively, Lordship refers to a group or body of peers. This understanding seems also have been applied to Hammurabi as noble, prince or ruler. The source of impact of the concept Patrician (T_{52}) is reflected in Table 10 and 11. A combination of the results of Table 10 with Table 11 implies a folding and abstraction of the attractor (T_{52}), of Table 9, named Patrician.

Table 10 Transformation of β_{51} by abstraction to T_{51}

1 / ari	sjornanon oj	p_{31} by abstraction to 1_{31}
D	0	
β ₅₁	5.3406	His lord
T ₅₁	5.3406	Noble

In Babylon were the 'amelu', like later in Rome, patricians the ruling class families, which after the fall of the Western empire only remained as a high honorary title. During the middle ages the title Patrician became a vague term, used for aristocrats and the higher bourgeoisie in many European countries. The term had a transformative effect on the state of Annexation (T_{49}) . The latter is the outcome of an observed Occupation (T_{48}) .

Table 11Transformation of β_{40} through β_{50} to T_{50}

1 rans	sjormanon oj	1 <i>p</i> 49 inrough <i>p</i> 50 to 1 50
β_{49}	4.5844	Rejoice the heart
β_{50}	4.4892	Of Marduk
T_{50}	9.0736	Affection

Emerging is the name of a term which gives expression to the condition of successful managing of the land, in particular the Babylonian land, as well as self-indication which has formed the basis for self-reference.

Until the creation of the Babylonian state in the 18th century BC, there were no comparable classes. The code of law envisions the whole population to fall into three classes, namely (1) the amelu, (2) the muskinu, and (3) the ardu. As mentioned, the first class were made up by Amelu and Patricians who were registered and had full civil rights. To this class belonged the king and court, the higher officials, the professionals and the craftsmen. It is most difficult to characterize the muskinu exactly. A very numerous class was formed by the ardu, which were slaves. As a result, the law held by the Lord refers not only to the deity (Marduk) but also to judges and legal systems, which nowadays constitute the Lordship (T₅₃). Intermingled with Noble (T₅₁) and Affection (T₅₀), it implies good service to the deity (or King) and the public.

Outburst

Surges of people may range in severity from being barely noticeable to causing extreme pleasure or damage. As early as the Babylonian exile, certain alien tribes were put under military constraint or otherwise came under pressure to live in other territories. However, there are no noticeable traces of riots unless the muskinu be really serfs or by alien residents. The God and his Stuart-king had long ceased to restrain occupation of land that could be acquired with fixed dues. The code recognizes complete private ownership that extended to brokers and aliens. All sold land was subject to fixed charges. As shown in Table A2 of the Appendix, the result of Table 12 builds on a long series of small steps in order to delineate the subject of legality shown in Table 13 and 14.

Table 12 Transformation of T_{115} through T_{128} to T_{129}

<u> </u>		1 113 000 000 1120 00 1129
T_{115}	427.3400	Devotion
T_{128}	-2.3567	Discharge
T_{129}	424.9833	Outburst

Table 13 Transformation of β_{2} by abstraction to T_{127}

1 / With	sjormanon oj	p_{28} by destruction to 1_{12}
D	0	
β_{28}	-2.0852	Will(:the inscription+(the inscription+explain his case+to him)
T_{127}	-2.0852	Issue

According to the code of law, if private citizens commit damage wilfully by defacing a property of others or the commons, it is considered a crime. The sovereign's Worry (T_{124}) as a result of 'Impression' and 'Concern' refers to a possible act of Defacing (T₁₂₅) which is related to the string (β_{77}) ('may(wo+be in the land'). The process of abstraction has formed the attractor (T_{123}) which has been named Concern. When damage is committed extensively,

Table 14 Transformation of β_{80} by abstraction to T_{125}

1 / 0////	Transferment of page y desired to the T ₁₂₅					
D	0					
β_{89}	-1.1060	Enacted(my monument+let(him not+mar(Y)				
T ₁₂₅	-1.1060	Defacing				

it can become quite serious and distressing. In response, government has few alternatives to prevent vandalism. Nevertheless, the seriousness of Defacing (T_{125}) is related with the aim to teach citizens law and legal rights. To Obliterate (T_{126}) the mentioned Worry (T_{124}) makes Defacing (T_{125}) an obsolete endeavour.

Damaging the appearance of the code of law on the surface of a monument corrupts the monument. Designed to hold the viewer's attention, Discharge (T_{128}) mediates a fight against civilization. One may wonder what could justify civilization if it were to be destroyed in such senseless manner. In the criminal law the ruling principle was the "lex talionis". Eye for eye, tooth for tooth, and limb for limb was the penalty for assault upon a class member, i.e. an Amelu. The talionis principle was, as a rule, converted to fines, not only in Babylon but also in Ireland.

Strength

Having an idea about where to go and what to achieve are attributes that define strategic planning. A vision about a future course of action implies the strength of a leader. Together, they separate a leader from a manager. By means of some standards, the Strength (T_{131}) of a ruler may be determined and therefore become subjected to certain criteria. By depending on official sources for survival, people assess the benefits of the ruler's Strength (T_{131}) to themselves as shown in Table 15.

Table 15 *Transformation of T_{115} through T_{128} to T_{129}*

T_{129}	424.9833	Outburst
T_{130}	-4.4690	Power
T ₁₃₁	420.5243	Strength

Table 15 and 16 show that the Power (T_{130}) of the ruler matters, which implies fostering "righteousness" as an expression of impartiality and the ruler's attention to law. It is a matter of degree and the right application in the right context. The ability to take an advanced view on justice is the excellent and outstanding attribute of 'Hammurabi as a ruler', which is shown in Table 16.

Table 16 *Transformation of* β_{36} *by abstraction to* T_{130}

110000	sjermenten ej	p ₅₀ by the structure 1 150
D	0	
β_{36}	-4.4690	Will(,so that he+(so that he+(say(so that+(Hammurabi)+is a ruler)))))
T_{130}	-4.4690	Power

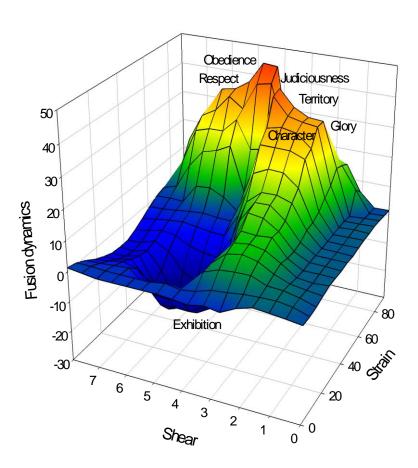
In ancient societies, Power (T_{130}) is the capacity of the ruler to influence the conduct (behaviour) of others. As a legitimate political attribute, it is associated with the authority of a person. Based on his authority, a powerful individual may exercise objectives that may enable others to obtain their own objectives in life. As mentioned several times before, the solution to the entire mesh is reproduced in Table A2 of the Appendix.

Descriptor Extractions

In a more abstract sense, displacing strings through the (A) function means that a perspective comes into existence and is shifting or changing without intervening disruptions. In the

context of the Epilogue, testing for the existence of the intention space, shown in Figure 5, presupposes a repeated test of the space-hypothesis (Wheeler, 1998, p. 139). Compared to PES the FES of Figure 5 is a function of two order parameters, i.e., Shear, positioned on the Y-axis and Strain, positioned on the X-axis.

Epilogue Intention



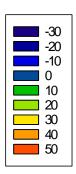


Figure 5 *FES of the Intention component*

As mentioned previously, the A-O-pairs have to be split as a first measure. In carrying out this step, it can be shown that entangled states are producing cyclic returns, which imply not only

shifts but also meaningful changes in the dimensionality of intention. However, establishing the intention space of Figure 5 requires a second step, namely the formation of an autonomously working [A] function and the assumption of its validity. Therefore, establishing intention in the context of evolutionary language dynamics provides for the discovery of states of attraction which presupposes the presence of a bio-kinematic mechanism. The emerging morphogenesis of intention is governing the extraction of the descriptors for the produced landscape. The descriptors have to conform to the structural expression of a particular intention. Through a cyclic extraction of their names, invariants reflect partly the extent of the oscillations in the [A] component, partly the redistribution of the articulation potential of the Epilogue.

In the following, it may be expected that the style of conduct may reflect the proper manifestation of the producer's intention with the code of law. Carried by the mesh, the outcome of naturally occurring variations are mapped out and the shape of the resulting surface, as shown in Figure 2, is really crucial for considering the theoretical value of Figure 5. The solution to the entire mesh, underlying the graph, is reproduced in Table A3 of the Appendix. The necessary couplings concern the naming of the attractor states in the intention landscape. The operations on the coordinated mesh systems imply forward and backward moves and the state attractors, shown in Figure 5, specify the information value of the participating trajectories. Once the description process has moved in the realm of the global state attractor, only trajectories are beneficial, which move the spiralling path towards its final singularity.

Character

The named concept Character is localised at the slope of the mountain massif at the right-hand side. As the extracted concept, its import brings the configuration of intention in a narrow relation with the most recent developments in modern political and ethical or moral theory which is Kantian and includes a juridical dimension. Thus, when the total configuration has settled, the description of only one single attractor is necessary to determine and communicate the distinctness of the emerging global state and its invariant. The character of the entire transformation process signifies a globally determined idea, which provides the impact of the transformations performed on topological invariants. Obviously, the distinctness of the global descriptor seems to be founded on Kantian conception of constructive plight.

Furthermore, the judicial aspect cannot stand on its own because it needs, according to Kant, the principle of necessity. Getting at the core of the principle means the emergence of the [A] function which has become independent of divine legislation (by 'Marduk'). Taking the code of law seriously enables the ruler to understand ethics with due weight put on the dimension of human intention.

The presence of distinct folding intermediates implies that there are other local free energy minima aside from the native and unfolded states. Furthermore, some grapheme compositions refold quickly while others are slower in their folding of pathways on the surface. As a result, it has become obvious that the involved mechanisms have the capacity to produce a minimum on either a free or potential energy surface, which is a point from which a small displacement in any direction increases the energy and consequently generates negatively curved manifolds, i.e., hyperbolic spaces. Accordingly, the magnitudes of the entangled states are dependent on intrinsic curvatures. It follows that a hyperbolic space is the result of a property that has become known as spin (Greene, 1999; B. Bierschenk, 2001; Seife, 2003). The [A] function is recognising spinning as multiples of (½A), while photo-like graphical copying operations are generating the properties of the open spaces [\emptyset_A]. The [\emptyset_A] are emerging in the form of integers (0, 1, 2, ...). Moreover, without the influence of any external forces, the corresponding radians are producing the basins of the spin-structures.

The perspective on the monument on which the code of law was exhibited came fully into its own in the 18th century BC. Moreover, various copies came into play not only in Babylonian but also at other places in Mesopotamia in order to display the code permanently in major places. By the 18th century BC this was a most famous event which became crucial for the development and maintenance of the Babylonian reputation. Modern exhibitions are concerned with the preservation, education and demonstration of the Babylonian civilization, designed to attract public interest and curiosity.

Obedience

Within the limits of a civilization, the individual must observe a system of laws, since a citizen is always subjected to the laws of a powerful state. Conceived with a Kantian perspective, it means that the law must be obeyed and this is the duty of the citizen. Likewise, in ancient times, the sovereign of Babylon has designed a framework with the ambition to provide guide lines for lawful reasoning and to prevent internal contradictions.

(...) it has developed as a consequence of the shift from object (i.e. culture) as governor to mentality as governor of human action. The shift is the only possible way to control consciousness. Considered as a paradigmatic description of the object-governed culture, the discharge of the king's official duties was mentally steered from the god. Thus culture and mentality constituted a unity, the objectively given and the unquestionable god was the inner voice, which had as its consequence that Hammurabi could not distinguish himself from Marduk (I. Bierschenk, 1989, p. 6).

For Marduk and his Steward-King Hammurabi, supreme legislative power is given by a deity and it would be a crime to destroy the foundation, exhibited on Hammurabi's monument. It may be impossible to pinpoint the first legal code or true law, but legal scholars and historians are of the opinion that "the code of Hammurabi is among the oldest and most complete written collections of law in existence" (Roffer, 2015, p. 14). The perspective in the Epilogue to the code is shown to be controllable by the Agent [A] function of the [AaO] mechanism, which also is its cue component. Based on the observations, cited in the paragraph, the sovereign is treated as identical to the constitution of Babylon and all civil obedience depends, according to the Kantian view, on the legality of the sovereign.

Respect

In essence, the concept of Respect is central to the Epilogue because it has its focus on wisdom and on self-respect. In agreement with Kant, the fulfilment of duties and obligations is the most significant intentional approach in Babylonian times as well as in modern times. Already the King of Babylon included himself as the significant mental function and the centre of an absolute dignity. Respecting himself and his alter-ego Marduk is at the core of this kind of ancient humanism. The presence of the self-governing mental function implies a decisive ground for possessed wisdom of an enlightened sovereign who deserves respect. Wisdom includes a range of ideas as the primary source of authority and legitimacy and the prerequisite for constitutional government. As a restraint authority the sovereign was inclined to be deistic which meant that the ethical dimension was not separated from his theological basis. Finally, in the Kantian sense, 'good will' is the unique attribute of the initiator of the code of law. The code maintains its ethical value even in the case where it fails to achieve the inscribed intention. With the code of law as background, wisdom of a sovereign may be distinguished from a deistic mind, aimed at contemplating the eternal and singled out from Judiciousness.

Judiciousness

Directed at the cognition of changeable individuals Judiciousness is a quality of the practical mind. In the patristic context of the Babylonian civilization, justice becomes an ethical virtue paired with the theological virtue of faith, hope and charity. The ancient vertical virtue of justice has elevated the individual citizen closer to his deity or highest good. Kant defines virtues as duties and divides them into those of relevance to oneself and duties of relevance to others. As autonomous statute, the code represents a special view of human conduct that is founded on necessity and rigid determinism.

Territory

The god of a city was originally owner of its land, which encircled it with an inner ring of irrigable arable land and an outer fringe of pasture, and the citizens were his tenants. Territoriality is the founding element in the establishment of superior sovereignty. The borders of a sovereign state like Babylon may be conceived of as defining citizenship, which however is not equivalent to the concept of identity. It is merely the location within the geographic borders of the Babylonian state that people fall under the authority of its ruler Hammurabi. However territorial supremacy may not be taken for granted. Geographic location within a set of boundaries makes the territorial integrity of Babylon and its lines of demarcation may be disrespected by others. Understanding territorial claims implies accepting one's sovereignty, which over millennia has taken extraordinarily diverse forms. Contrasting the territorial integrity of the Babylonian kingdom with simultaneously wandering tribes implies a focus on the danger of invasion by people whose authority structure is completely dissociated with the land of Babylon.

Glory

Inclination attributed to the creation of the code of law may be described as contentment and eagerness to communicate the approval of it in the light of its influence on virtually all legal codes worldwide. The great goal with the monument, raised by Hammurabi, is not merely to know the code but to learn from it, to be dutiful and be enjoyed by knowing and obeying the law. Its legacy, surrounding the King of Babylon, is resulting from his achievements and a policy that was implemented to maintain peace and to encourage prosperity. Successful in diplomacy and war alike, Mesopotamia had become united under Hammurabi and his ruling has changed Babylon which at his time emerged as probably the largest city in the ancient world and his realm became known as Babylonia.

Exhibition

An Exhibition is nothing new. However, the concept has emerged as the descriptor of the most pronounced minimum in the spaces of the Figures 2 and 5. The PES of Figure 2 is the prerequisite and is characterizing the pathways between the minima which define the connectivity of the PES (Wales, 2003, pp. 2-3) and therefore is critical in the determination of the relaxation dynamics.

Discussion

Portraying the components of the dimensions of intention and orientation, abstracted from words and phrases, indicates the implied producer. Required is, however, that perspectivation in the textual movement patterns can be observed and reflected through the components. The theoretical significance of the spacetime concept (Cho, 2000a, Cho, 2002b; Wisdom 2003) has been demonstrated with reference to the mirror-strategy, proposed by

Greene (1999, p. 278). Further, measuring and observing individual behaviour will fail unless intention can be accounted for with precision. In analogy with Greene's space-splitting approach the coordinative cooperation and interaction of intention and orientation has been observed with the aim to preserve their strict dependency. As Winfree (1980, p. 28) has witnessed: "The science comes in locating and making use of the discontinuities and the discovering which of many alternative mechanisms underlie its particular character". For example, the recurrences of a phase singularity at a higher level of abstraction are structural and constitute a profound discovery regarding the significance of recursive convolutions. The boundaries of the components appear to establish the helical properties delineated above in Figure 1.

In the cooperative interaction of twisting and winding sequences of strings, the helical configuration of text becomes constitutive. Through a rotation-governed processing of specific changes in angular string articulation, the crucial import of local string interaction has been demonstrated and filtered through the underlying strings. By relating the termini of the [O] component as well as the termini of the [A] component to each other, it has been possible to show that the termini contribute with a clarification of orientation while the extracted termini are backing up the taken position and consequently intention. Mediated through the produced translation, the structure indicates that the complementarity of the dimensions remain and gives validity to the [AaO] axiom that stipulates that the Agent must get its description through the Objective, an axiom which finally has been validated empirically by an impressive commonalty.

References

- Baeyer, H. C., von (1999). Nota bene. From classical chemistry to super-strings, effective notation can shape the very development of a discipline. *The Sciences*, 39, 12-14.
- Bertalanffy, L., von (1950/1969). The theory of open systems in physics and biology. In F. E. Emery (Ed.) (1969), Systems thinking (pp. 70-85). Harmondsworth, Middlesex: Penguin Books.
- Bierschenk, B. (2001). Geometric foundation and quantification of the flow in a verbal expression. Kognitionsvetenskaplig forskning, 81. Copenhagen: Copenhagen University, Copenhagen Competence Research Centre & Lund University: Department of Psychology.
- Bierschenk, B. (2002). Real time imaging of the rotation mechanism producing interviewbased language spaces. Kognitionsvetenskaplig forskning, 83. Copenhagen: Copenhagen University, Copenhagen Competence Research Centre & Lund University: Department of Psychology.
- Bierschenk, I. (1989). Language as carrier of consciousness. Kognitionsvetenskaplig forskning, 30. Lund, Sweden: Lund University.
- Bierschenk, I. (1999/2003). The essence of text: A dialogue on Perspective Text Analysis. Cognitive Science Research, 70. Copenhagen University & Lund University.
- Bierschenk, I. (2011). Ett ekologiskt perspektiv på språk och textanalys. [An ecological perspective on language and text analysis]. Cognitive Science Research, 98. Copenhagen University & Lund University.
- Bierschenk, I. (2019). Five Lectures on Textual Gait. Cognitive Science Research, 143. Copenhagen University & Lund University.
- Bierschenk, I., & Bierschenk, B. (2011). Perspective Text Analysis: Tutorial to Vertex. Cognitive Science Research, 100. Copenhagen University, & Lund University. Cho, A. (2000 a). Physicists Unveil Schrödinger's SQUID. Science, 287(5462), 2395.
- © 2019 by Bernhard Bierschenk All rights reserved.

- Cho, A. (2002 b). Constructing spacetime No strings attached. Science, 298(5596), 1166-1167.
- Code of Hammurabi. Part of the source file for the Law code of Hammurabi (Trans. L.W. King, 1915). Source: gopher://gopher.vt.edu:10010/10/33
- Connes, A. (1994). Noncommutative geometry. New York: Academic Press.
- Greene, B. (1999). The elegant universe. Superstrings, hidden dimensions, and the quest for the ultimate theory. New York: W. W. Norton & Company.
- Hardison, R. (1999). The evolution of hemoglobin. Studies of the very ancient protein suggests that changes in gene regulation are an important part of the evolutionary story. *American Scientist*, 87, 126-137.
- Hernández, J. V., Kay, E. R., & Leigh, D. A. (2004). A reversible synthetic rotary molecular motor. *Science*, 306(5701), 1532-1537.
- Hestenes, D. (1986/1993). *New foundations for classical mechanics*. Dordrecht: Kluwer Academic Publishers. (Original work published 1986)
- Hestenes, D. (1994). Invariant body kinematics: I. Saccadic and compensatory eye movements. *Neural Networks*, 7, 65-77.
- Higgins, N. (2014). The lost legal system: Pre-common law Ireland and the Brehon law. School of Law and Government, Dublin City University, Ireland. http://eprints.maynoothuniversity.ie/5663/1/NH-Brehon-Law.pdf
- Presidents day advice from Abraham Lincoln. www.daily-devotionals.com/tag/presidents-day, 2012, February 17.
- Roffer, M. H. (2015). The law book. From Hammurabi to the international criminal court, 250 milestones in the history of law. Sterling: New York
- Seife, C. (2003). Competing research teams create long-sought state of matter. *Science*, 302, 1129.
- Wales, D. J. (2003). *Energy landscapes: Applications to clusters, biomolecules and glasses*. Cambridge: Cambridge University Press.
- Wheeler, J. A. (1998). *Geons, black holes & quantum foam: A life in physics*. New York: Norton.
- Winfree, A. T. (1980). The geometry of biological time. Berlin: Springer Verlag.
- Wisdom, J. (2003). Swimming in spacetime: Motion by cyclic changes in body shape. *Science*, 299(5614) 1865-1869.

Accepted May 05, 2019

Appendix

Epilogue

The king who ruleth among the kings of the cities am I. My words are well considered; there is no wisdom like unto mine. By the command of Shamash, the great judge of heaven and earth, let righteousness go forth in the land: by the order of Marduk, my lord, let no destruction befall my monument. In E-Sagil, which I love, let my name be ever repeated; let the oppressed, who has a case at law, come and stand before this my image as king of righteousness; let him read the inscription, and understand my precious words: the inscription will explain his case to him; he will find out what is just, and his heart will be glad, so that he will say:

"Hammurabi is a ruler, who is as a father to his subjects, who holds the words of Marduk in reverence, who has achieved conquest for Marduk over the north and south, who rejoices the heart of Marduk, his lord, who has bestowed benefits for ever and ever on his subjects, and has established order in the land."

When he reads the record, let him pray with full heart to Marduk, my lord, and Zarpanit, my lady; and then shall the protecting deities and the gods, who frequent E-Sagil, graciously grant the desires daily presented before Marduk, my lord, and Zarpanit, my lady.

In future time, through all coming generations, let the king, who may be in the land, observe the words of righteousness which I have written on my monument; let him not alter the law of the land which I have given, the edicts which I have enacted; my monument let him not mar. If such a ruler have wisdom, and be able to keep his land in order, he shall observe the words which I have written in this inscription; the rule, statute, and law of the land which I have given; the decisions which I have made will this inscription show him; let him rule his subjects accordingly, speak justice to them, give right decisions, root out the miscreants and criminals from this land, and grant prosperity to his subjects.

Table A1 Hammurabi's Code of Law: Unfolded Epilogue Values

X= Variables	Y= Intervals	Z(A)	Z(O)
1	1	4.39600000	4.99260010
2	1	4.39600000	5.37930000
3	1	3.40333598	4.20760000
4	2	3.98780000	3.98780000
5	2	3.50305233	0.39643630
6	3	3.95640000	4.36460000
7	3	3.95640000	5.92110000
8	4	16.5418000	4.27040010
9	4	1.43283883	3.98780000
10	4	1.43283883	5.37930000
11	5	10.6681000	4.58439999
12	5	2.23379425	4.92980000
13	6	3.91760000	-48.832603
14	7	3.86610720	4.36460000
15	7	1.10298099	3.95640000
16	7	-1.2422269	-29.758637
17	8	-3.2420348	-15.824321
18	8	-6.0051610	4.14480000
19	8	-8.3503689	4.33320000
20	8	-8.3503689	4.83750010
21	9	-10.350177	-21.056240
22	9	-12.705103	6.03720000
23	9	-12.705103	3.95640000
24	9	-12.705103	5.22450000
25	10	-15.198582	3.95640000
26	10	-17.961708	4.64720000

		T	T =
27	11	-19.553316	5.18100000
28	12	4.55300000	-2.0852210
29	12	3.36622400	4.52160000
30	12	3.36622400	4.83750010
31	13	3.86220000	-8.3397287
32	13	3.53475192	4.42739999
33	13	1.18954404	3.95640000
34	14	4.77280000	0.20064810
35	14	3.31532611	3.95640000
36	15	4.67860000	-4.4690147
37	15	3.33699283	2.59395578
38	16	4.05060000	4.33320000
39	17	3.89360000	4.42739999
40	17	3.89360000	5.53409999
41	18	3.89360000	4.49020000
42	18	3.89360000	4.95360000
43	18	3.89360000	5.06970000
44	19	3.89360000	-6.9302627
45	19	3.52677928	4.27040010
46	19	3.52677928	7.09500000
47	19	3.52677928	5.49540000
48	19	3.52677928	4.95360000
49	20	3.89360000	4.58439999
50	20	3.89360000	4.48920000
51	20	3.89360000	5.34060000
52	21	3.89360000	-27.944115
53	21	3.52677928	4.27040010
54	21	3.52677928	8.47000000
55	21	3.52677928	5.53409999
56	21	1.58977140	-6.9611356
57	21	-1.2491075	4.23900000
58	21	-1.2491075	6.23070000
59	22	3.95640000	4.52160000
60	23	3.51092998	3.95640000
61	24	1.16572199	7.39470000
62	24	1.16572199	4.95360000
63	24	1.16572199	4.30180000
64	24	1.16572199	4.45880000
65	24	1.16572199	4.30180000
66	25	4.33320000	4.01919999
67	25	3.41836603	4.30180000
68	25	3.41836603	4.39600000
69	26	3.89360000	4.23900000
70	27	3.76800000	5.02400000
71	27	3.55886631	5.84370000
72	27	3.55886631	4.30180000
73	27	3.55886631	4.11340010
74	27	3.55886631	4.64720000
75	28	5.58850000	4.30180000
76	29	3.13599991	4.39600000
77	30	3.89360000	-0.0476032
78	30	3.52677928	5.84370000
79	31	1.18157140	4.52160000
80	31	1.18157140	5.22450000
81	31	3.95640000	0.15090931
82	31	3.51092987	4.99260010
83	32	1.16572199	4.36460000
	1		

© 2019 by Bernhard Bierschenk All rights reserved.

84	32	-1.1794859	4.42739999
85	32	-1.1794859	5.37930000
86	32	3.95640000	-20.064164
87	32	3.51092987	-13.100217
88	33	4.80420000	-8.3475496
89	33	3.30815147	-1.1059675
90	34	4.42739999	3.45872671
91	34	3.95640000	1.53860000
92	35	4.77280000	4.08200000
93	35	3.72352611	-16.601848
94	35	0.88464719	-6.9862681
95	35	-1.0837607	4.42739999
96	35	-1.0837607	4.91490000
97	36	3.86220000	-17.981629
98	36	3.53475192	4.55300000
99	36	3.95640000	-0.1340636
100	36	3.51092987	6.34680000
101	37	10.3716000	-34.039865
102	37	2.27950314	-25.844491
103	38	5.27520000	-20.986892
104	38	3.20321964	-13.752684
105	38	0.85801176	4.64720000
106	38	-1.48719610	3.98780000
107	39	-3.83240400	3.95640000
108	39	-6.17761190	5.21240000
109	40	-8.52281980	4.14480000
110	40	-8.52281980	4.83750010
111	41	-10.8680280	4.64720000
112	41	-13.2132360	5.02400000
113	41	-13.2132360	4.14480000
114	41	-13.2132360	5.49540000
115	41	-15.5584430	4.23900000
116	41	-15.55844300	5.95980000

Table A2 Transformation of Terms in the Mesh system of the Objective Component

X	Y	Node	Value	Transformation
0	1	1	4.9926	Ruleth among the kings
1	0	2	5.3793	Of the city
1	1	T_1	10.3719	Domination
2	0	D	0	
3	0	3	4.2076	Am I.
3	1	T_2	4.2076	Self-reference
3	2	T_3	14.5795	Powerfulness
4	0	D	0	
5	0	4	3.9878	Are well
5	1	T_4	3.9878	Fondness
5	2	T_5	18.5673	Pride
6	0	6	4.3646	Is(no wisdom+like unto mine.)
7	0	7	5.9211	No wisdom
7	1	T_6	10.2857	Self-respect
7	2	T_7	28.8530	Self-sacrificing Self-sacrificing
8	0	8	4.2704	Let righteousness
9	0	9	3.9878	Go forth
9	1	T_8	8.2582	Blameless
10	0	D	0	

1.1	0	10	5 2702	To d - 1 - 1
11	0	10	5.3793	In the land
11	1	T ₉	5.3793	Reliability
11	2	T ₁₀	13.6375	Responsibility
11	3	T ₁₁	42.4905	Enhancement
12	0	11	4.5844	Let no destruction
13	0	12	4.9298	Befall my monument.
13	1	T ₁₂	9.5142	Inheritance
13	3	T ₁₃	52.0047	Preservation
14	0	14	4.3646	Let my name
15	0	15	3.9564	Be ever
15	1	T ₁₄	8.3210	Conservation
15	3	T ₁₅	60.3257	Salubriousness
16	0	18	4.1448	Oppressed who
17	0	19	4.3332	Has a case
17	1	T ₁₆	8.4750	Care-taking Care-taking
18	0	D	0	
19	0	20	4.8375	At law
19	1	T ₁₇	4.8375	Ruling
19	2	T_{18}	13.3125	Sovereignty
19	3	T ₁₉	73.6322	Benevolence
20	0	D	0	
21	0	22	6.0372	Stand this my image
21	1	T_{20}	6.0372	Appearance
22	0	23	3.9564	As king
23	0	24	5.2245	Of righteousness
23	1	T_{21}	9.1809	Mediator
23	2	T_{22}	15.2181	Harmony
23	3	T ₂₃	88.8563	Goodness
24	0	25	3.9464	Let him
25	0	26	4.6472	Read the inscription
25	1	T_{24}	8.6036	Indentation
25	3	T ₂₅	97.4599	Mark
26	0	D	0	
27	0	27	5.1810	Understand my precious word
27	1	T_{26}	5.1810	Treasure
27	3	T_{27}	102.6409	Imposition
28	0	29	4.5216	Explain his case
29	0	30	4.8375	To him
29	1	T ₂₈	9.3591	Clarification
29	3	T ₂₉	112.0000	Declaration
30	0	32	4.7270	Find out what
31	0	33	3.9564	Is just
31	1	T ₃₀	8.3838	Astuteness
31	3	T ₃₁	120.3838	Verdict
32	0	D	0	
33	0	35	3.9564	Be glad
33	1	T ₃₂	3.9564	
33	3	T ₃₃	124.3402	Praise
34	0	D	0	
35	0	37	2.5940	Say(Hamurabi+is a ruler)
35	1	T ₃₄	2.5940	Admiration
36	0	D	0	
37	0	38	4.3332	Is a ruler
37	1	T ₃₅	4.3332	Lord
37	2	T ₃₆	6.9272	Authority
37	3	T ₃₇	131.2674	Guidance
38	0	39	4.4274	Is the father

^{© 2019} by Bernhard Bierschenk All rights reserved.

20	0	40	£ £2.41	Table authors
39	0		5.5341	To his subjects
39	1	T ₃₈	9.9615	Conduct
39	3	T ₃₉	141.2289	Exposition
40	0	41	4.4902	Holds the words
41	0	42	4.9536	Of Marduk
41	1	T ₄₀	9.4438	Confidence
42	0	D	0	Y 0
43	0	43	5.0697	In reference
43	1	T ₄₁	5.0697	Allusion
43	2	T ₄₂	14.5135	Attainment
43	3	T ₄₃	155.7424	Revelation
44	0	D	0	
45	0	45	4.2704	Achieved conquest
45	1	T ₄₄	4.2704	Accomplishment
46	0	46	7.095	For Marduk
47	0	47	5.4954	Over the North
47	1	T ₄₅	12.5904	Triumph
47	2	T ₄₆	19.6854	Possession
48	0	D	0	
49	0	48	4.9536	And south
49	1	T ₄₇	4.9536	Apprehension
49	2	T ₄₈	24.6390	Occupation
49	3	T ₄₉	180.3814	Annexation
50	0	49	4.5844	Rejoice the heart
51	0	50	4.4892	Of Marduk
51	1	T_{50}	9.0736	Affection
52	0	D	0	
53	0	51	5.3406	His lord
53	1	T_{51}	5.3406	Noble
53	2	T ₅₂	14.4142	Patrician
53	3	T ₅₃	194.7956	Lordship
54	0	53	4.2704	Bestowed benefits
55	0	55	5.5341	On his subjects
55	1	T ₅₄	9.8045	Donation
56	0	57	4.2390	Established order
57	0	58	6.2307	In the land
57	1	T ₅₅	10.4697	Firmness
57	2	T ₅₆	20.2742	Permanence
57	3	T ₅₇	215.0698	Perpetuity
58	0	D	0	
59	0	59	4.5216	Reads the record
59	1	T ₅₈	4.5216	Identification
59	3	T ₅₉	219.0262	Resilient
60	0	D	0	
61	0	60	3.9564	Let him
61	1	T ₆₀	3.9564	Tenancy
61	3	T ₆₁	223.5478	Tenure
62	0	62	4.9536	Pray with full heart
63	0	63	4.3018	To Marduk
63	1	T ₆₂	9.2554	Worship
64	0	64	4.4588	And Zarpanit
65	0	65	4.3018	My lady
65	1	T ₆₃	8.7606	Noblewoman
65	2	T ₆₄	18.0160	Supremacy
65	3	T ₆₅	241.5638	Safety
66	0	66	4.0191	Shall the
67	0	67	4.3018	Protecting deities
_ · ·		1 0 /	1.5010	Trouting defines

	1 4	I m	0.2200	D1 1 1
67	1	T ₆₆	8.3209	Divinity
68	0	D	0	
69	0	68	4.3960	And the gods
69	1	T ₆₇	4.3960	Immortals
69	2	T ₆₈	12.7169	Celebrities
69	3	T ₆₉	254.2807	Permissive
70	0	D	0	
71	0	69	4.2390	Frequent E-Sagil
71	1	T ₇₀	4.2390	Patronize
71	3	T ₇₁	258.5197	Charity
72	0	70	5.0240	Grant the desires daily
73	0	71	5.8437	Presented before Marduk
73	1	T ₇₂	10.8677	Sponsor
74	0	72	4.3018	My Lord
75	0	73	4.1134	And Zarpanit
75	1	T ₇₃	8.4152	Godparent
75	2	T ₇₄	19.2829	Compassion
76	0	D	0	
77	0	74	4.6472	My lady
77	1	T ₇₅	4.6472	Goddess
77	2	T ₇₆	23.9301	Mercy
77	3	T ₇₇	282.4498	Gracious
78	0	D	0	
79	0	75	4.3018	Coming generation
79	1	T ₇₈	4.3018	Transmission
79	3	T ₇₉	286.7516	Serenity
80	0	D	0	
81	0	76	4.3960	Let the king
81	1	T ₈₀	4.3960	Enabling
81	3	T ₈₁	291.0534	Empowering
82	0	D	0	
83	0	78	5.8437	Be in the land
83	1	T ₈₂	5.8437	Kingdom
83	3	T ₈₃	296.8971	Entitling
84	0	79	4.5216	Observe the words
85	0	80	5.2245	Of righteousness
85	1	T ₈₄	9.7460	Justifiable
86	0	D	0	
87	0	82	4.9926	Written on my monument
87	1	T ₈₅	4.9926	Commemorate
87	2	T ₈₆	14.7387	Remembrance
87	3	T ₈₇	311.6358	Glory
92	3	83	4.3646	Let him not
92	4	84	4.4274	Alter the law
91	4	T ₈₈	8.7920	Preclusion
92	5	D	0	
92	6	85	5.3793	Of the land
91	6	T ₈₉	5.3793	Territory
90	6	T ₉₀	14.1713	Redundancy
88	5	T ₉₁	325.8071	Continue
87	8	90	3.4587	Let(him not+mar(Y).
86	8	91	1.5386	Mar(Y)
86	7	T ₉₂	4.9973	Ruin
86	5	T ₉₃	330.8044	Maintain
85	8	D	0	
84	8	92	4.0820	Have wisdom
84	7	T ₉₄	4.0820	Sagacity

^{© 2019} by Bernhard Bierschenk All rights reserved.

84	5	Т	334.8864	Judiciousness
83	8	T ₉₅	4.4274	Keep his land
82	8	96	4.4274	In order
82	7	T ₉₆	9.3423	Retain
82	5	T ₉₇	344.2287	Respect
81	8	98	4.5530	Observe the words
80	8	100	6.3468	Written in this inscription
80	7	T ₉₈	10.8998	Obligation Obligation
80	5	T ₉₉	355.1285	Obedience
79	8	105	4.6472	Will this instruction
78	8	106	3.9878	Show him
78	7	T ₁₀₀	8.6350	Delineation
78	5	T ₁₀₁	363.7635	Character
77	8	107	3.9564	Let him
76	8	108	5.2124	Rule his subjects accordingly
76	7	T ₁₀₂	9.1688	Commandment
76	5	T ₁₀₃	372.9323	Prescription
75	8	109	4.1448	Speak justice
74	8	110	4.8375	To him
74	7	T ₁₀₄	9.0325	Justness
74	5	T ₁₀₅	381.9648	Impartiality
73	8	111	4.6472	Give right decision
72	8	112	5.024	Root out the miscreants
72	7	T_{106}	9.6712	Propriety
71	8	113	4.1442	And criminals
70	8	114	5.4954	From this land
70	7	T ₁₀₇	9.6405	Expatriate
70	6	T ₁₀₈	19.3117	Impropriety
69	8	115	4.2390	Grant prosperity
68	8	116	5.9598	To his subjects
68	7	T ₁₀₉	10.1988	Riches
68	6	T ₁₁₀	29.5105	Well-being
68	5	T ₁₁₁	411.4753	Comfort
67	8	D	0 4700	T 1
66	8	54	8.4700	For ever and ever
66	7	T ₁₁₂	8.4700	Endowners
66	8	T ₁₁₃		Endowment
65 64	8	61	7.3947	Pray with full heart
64	7		7.3947	Adoration
64	5	T ₁₁₄ T ₁₁₅	427.3400	Devotion
63	8	D	427.3400	Devotion
62	8	5	0.3964	My lord
62	7	T ₁₁₆	0.3964	Belonging
61	8	D	0.5704	20101151115
60	8	34	0.2007	Will(and his heart+be glad)
60	7	T ₁₁₇	0.2007	Firmness
60	6	T ₁₁₈	0.5971	Steadiness
59	8	D	0	
58	8	81	0.1509	Have(which I+written on my monument)
58	7	T ₁₁₉	0.1509	Evidence
58	6	T ₁₂₀	0.7480	Certificate
57	8	D	0	
56	8	99	0.1341	Have(which I+written in this inscription)
56	7	T ₁₂₁	0.1341	Engraving
56	6	T ₁₂₂	0.8821	Impression
55	8	D	0	

		T		
54	8	77	-0.0476	May(who+be in the land)
54	7	T ₁₂₃	-0.0476	Concern
54	6	T ₁₂₄	0.8345	Worry
53	8	D	0	
52	8	89	-1.1060	Enacted(; my monument+let(him not+mar(Y).)
52	7	T_{125}	-1.1060	Defacing
52	6	T ₁₂₆	-0.2715	Obliterate
51	8	D	0	
50	8	28	-2.0852	Will(: the inscription+the inscription+explain his case+tohim)
50	7	T ₁₂₇	-2.0852	Issue
50	6	T ₁₂₈	-2.3567	Discharge
50	5	T ₁₂₉	424.9833	Outburst
49	8	D	0	
48	8	36	-4.4690	Will(, so that he+so that he+(say(so that+"Hamurabi+is a ruler)
48	7	T ₁₃₀	-4.4690	Power
48	5	T ₁₃₁	420.5243	Strength
47	8	D	0	
46	8	94	-6.9863	Able(If such a ruler+to(keep his land+in order)
46	7	T ₁₃₂	-6.9863	Proficiency
46	5	T ₁₃₃	413.5380	Execution
45	8	D	0	
44	8	56	-6.9611	And(who+has(who+established order+in the land.")
44	7	T ₁₃₄	-6.9611	Recognition
44	5	T ₁₃₅	406.5769	Appreciation
43	8	D	0	
42	8	44	-6.9303	Has(who+achieved conquest+for Marduk+over the north+and south)
42	7	T ₁₃₆	-6.9303	Dethrone
42	5	T ₁₃₇	399.6466	Alteration
41	8	D	0	Titorution
40	8	88	-8.3475	Have(edicts which I+enacted(my monument+let(him not+mar(Y).
40	7	T ₁₃₈	-8.3475	Proclamation
40	5	T ₁₃₉	391.2991	Decree
39	8	D	0	Decice
38	8	31	-8.3387	Will(he+find out+(he+is just)
38	7	T ₁₄₀	-8.3387	Decent
38	5	T_{140}	382.9604	Sensible
37	8	D	0	Scholore
36	8	104	-13.7527	Made(the decision which I+have(the decision which I+will this
30	8	104	-13.7327	inscription+(the decision which I+show him)
36	7	T ₁₄₂	-13.7527	Resolution
36	5	T ₁₄₃	369.2077	Solution
35	8	D 1 143	0	DOILLIOII
34	8	87	-13.1002	Given(edicts which I +have(edicts which I+enacted)
34	7	T ₁₄₄	-13.1002	Stipulation
34	5		356.1075	Foundation
33	8	T ₁₄₅	336.10/3	1 Outraction
32	8	17	-15.8243	(In F. Sagil, which I tonnrossed who)
32	7		-15.8243	(In E-Sagil, which I+oppressed who) Subservience
32	5	T ₁₄₆		
31	8	T ₁₄₇	340.2832	Control
			16 6019	Do(If such a gular table(to(If such a gular trees his land tin and tin
30	8	93 T	-16.6018	Be(If such a ruler+able(to(If such a ruler+keep his land+in order)))
30	7	T ₁₄₈	-16.6018	Existence
30	5	T ₁₄₉	323.6814	Survival
29	8	D	0	
28	8	97	-17.9816	Shall(he+observe the word+(which I+have(which I+written in this
	7	-		inscription)
28		T ₁₅₀	-17.9816	Fulfilment

^{© 2019} by Bernhard Bierschenk All rights reserved.

28	5	T ₁₅₁	305.6998	Implementation
27	8	D	0	
26	8	103	-20.9869	Have(the decision which I+(made(the decision which I+will this
				inscription+()+show him
26	7	T ₁₅₂	-20.9869	Exhibition
26	5	T ₁₅₃	284.7129	Exposition
25	8	D	0	
24	8	86	-20.0642	Have(which I+given(which I+edicts which I+have()
24	7	T ₁₅₄	-20.0642	Accountability
24	5	T ₁₅₅	264.6487	Liability
23	8	D	0	
22	8	21	-21.0562	Come(In E-Sagil, which I+(and)+stand this my image+as king of
				righteousness)
22	7	T ₁₅₆	-21.0562	Conviction
22	5	T ₁₅₇	243.5925	Persuasion
21	8	D	0	
20	8	102	-25.8445	Given(the decision which I+have()made+()will this
				inscription+()show him
20	7	T ₁₅₈	-25.8445	Capability
20	5	T ₁₅₉	217.7480	Competence
19	8	D	0	
18	8	52	-27.9441	Has(who+bestowed benefits+for ever and ever+on his subjects+()
18	7	T ₁₆₀	-27.9441	Supply
18	5	T ₁₆₁	189.8039	Contribution
17	8	D	0	
16	8	16	-29.7586	Repeated(In E-Sagil, which I+let()+oppressed who ()
16	7	T ₁₆₂	-29.7586	Reiteration
16	5	T ₁₆₃	160.0453	Restatement
15	8	D	0	
14	8	101	-34.0399	Have(the rule, statute, and law of the land which I+given()+ the
				decision which I+ (have(+()made ()
14	7	T ₁₆₄	-34.0399	Consistency
14	5	T ₁₆₅	126.0054	Dependability
13	8	D	0	
12	8	13	-48.8326	Love(In E-Sagil, which I+let my name +()
12	7	T ₁₆₆	-48.8326	Fondness
12	5	T ₁₆₇	77.1728	Endorsement

Table A3 Extraction of Terms from the Mesh system of the Objective Component

X	Y	A-component	O-component	Concepts	Fusion
		Swing	Destination	Extracted	Value
1	1	$T_1: 1 \rightarrow 2$	T_{O1}	Domination	5.8356
3	1	$T_2: D \rightarrow 3$	T_{O2}	Self-reference	3.4033
3	2	$T_3: T_{A2} \rightarrow T_{A1}$	T_{O3}	Powerfulness	9.2389
5	1	$T_4: 4 \rightarrow 5$	T _{O114}	Belonging	7.4909
5	2	$T_5: T_{A4} \rightarrow T_{A3}$	T_{O5}	Pride	16.7298
6	1	$T_6: 6 \rightarrow 7$	T _{O6}	Self-respect	7.9128
7	2	$T_7:T_{A6} \rightarrow T_{A5}$	T _{O7}	Self-sacrificing	24.6426
9	1	$T_8: 9 \rightarrow 10$	T_{O8}	Blamelessness	2.8656
9	2	$T_9: T_{A8} \rightarrow T_{A7}$	T _{O7}	Self-sacrificing	27.5082
11	1	$T_{10}: D \rightarrow 12$	T _{O12}	Inheritance	2.2338
11	2	$T_{11}: T_{A10} \rightarrow T_{A9}$	T _{O11}	Responsibility	29.7420
13	1	$T_{12}: D \rightarrow 13$	T _{O164}	Fondness	3.9176
13	2	$T_{13}: T_{A12} \rightarrow T_{A11}$	T _{O11}	Enhancement	33.6596
15	1	$T_{14}: D \rightarrow 14$	T _{O14}	Conservation	3.8661

15	2	т.т \т	T _{O14}	Conservation	37.5257
17	1	$T_{15}: T_{A15} \to T_{A14}$ $T_{16}: 28 \to 29$	T _{O28}	Clarification	7.7192
19	1		T _{O28}	Clarification	3.3662
19	2	$T_{17}: D \rightarrow 30$	T _{O18}	Sovereignty	11.0854
19	3	$T_{18}: T_{A17} \rightarrow T_{A16}$	T _{O18}	Sovereignty	48.6111
21	1	$T_{19}: T_{A19} \rightarrow T_{A18}$	To ₃₁	Verdict	7.3970
21	3	$T_{20}: 31 \rightarrow 32$	T_{O23}	Goodness	56.0081
23	1	$T_{21}: T_{A20} \rightarrow T_{A19}$		Rejoice	8.0880
23	3	T_{22} : 34 \rightarrow 35	To ₃₂	Mediator	64.0961
25	1	$T_{23}: T_{A22} \rightarrow T_{A21}$	To ₂₁ To ₃₄	Admiration	8.0156
25	3	$T_{24}: 36 \rightarrow 37$		Mark	72.1117
27	1	$T_{25}: T_{A24} \rightarrow T_{A23}$	To ₂₅	Indentation	4.0506
27	3	$T_{26}: D \rightarrow 38$	To ₂₆	Treasure	76.1633
29	1	$T_{27}: T_{A27} \rightarrow T_{A26}$	To ₂₈	Clarification	7.7872
29	3	$T_{28}: 39 \rightarrow 40$		Declaration	
		$T_{29}: T_{A28} \rightarrow T_{A27}$	To ₂₉	Confidence	83.9495
31	1	$T_{30}: 41 \to 42$	To ₄₀		7.7872
33	1	$T_{31}: D \rightarrow 43$	To ₄₁	Allusion	3.8936
33	3	$T_{32}: T_{A31} \rightarrow T_{A30}$	To ₃₀	Astuteness	11.6808 95.6303
		$T_{33}: T_{A32} \rightarrow T_{A28}$	To ₂₉	Declaration	
35	1	T_{34} : 44 \rightarrow 45	To ₄₄	Accomplishment	7.4204
37	1	T_{35} : $46 \rightarrow 47$	To ₄₅	Triumph	7.0536
37	2	$T_{36}: T_{A35} \rightarrow T_{A34}$	To ₃₆	Authority	14.4740
39	1	T_{37} : D \rightarrow 48	To ₃₄	Admiration	3.5268
39	2	$T_{38}: T_{A37} \rightarrow T_{A36}$	To ₃₆	Authority	18.0008
39	3	$T_{39}: T_{A38} \rightarrow T_{A33}$	To ₃₇	Guidance	113.6311
41	1	$T_{40}: 49 \to 50$	To ₅₀	Affection	7.7872
43	1	T_{41} : D \rightarrow 51	To ₅₁	Noble	3.8936
43	2	$T_{42}: T_{A41} \rightarrow T_{A40}$	To ₄₂	Attainment	11.6808
43	3	$T_{43}: T_{A42} \rightarrow T_{A39}$	To ₄₃	Revelation	125.3119
45	1	T_{44} : 52 \rightarrow 53	To ₅₄	Donation	7.4204
47	1	T_{45} : 54 \rightarrow 55	To ₅₄	Donation	7.05360
47	2	$T_{46}: T_{A45} \rightarrow T_{A44}$	To ₄₆	Possession	14.4774
49	1	$T_{47}: D \to 56$	To ₁₃₂	Recognition	1.5898
49	2	$T_{48}: T_{A47} \rightarrow T_{A46}$	To ₄₈	Occupation	16.0638
49	3	$T_{49}: T_{A48} \rightarrow T_{A43}$	To ₄₉	Annexation	141.3757
51	1	T_{50} : D \rightarrow 59	To ₅₈	Tenancy	3.9564
51	3	$T_{51}: T_{A50} \to T_{A49}$	To ₅₁	Noble	145.3322
53	1	T_{52} : D \rightarrow 60	To ₃₉	Tenancy	3.5109
53	3	$T_{53}: T_{A52} \rightarrow T_{A51}$	To ₅₁	Noble	148.8430
55	1	$T_{54}: 66 \to 67$	To ₆₆	Divinity	7.7516
57	1	T_{55} : D \rightarrow 68	To ₆₇	Immortals	3.4184
57	2	$T_{56}: T_{A55} \rightarrow T_{A54}$	To ₅₆	Permanence	11.1700
57	3	T_{57} : $T_{A56} \rightarrow T_{A53}$	To ₅₇	Perpetuity	160.013
59	1	$T_{58}: D \to 69$	To ₇₀	Patronize	3.8936
59	3	$T_{59}: T_{A58} \to T_{A57}$	To ₅₉	Resilient	163.9060
61	1	$T_{60}: 70 \to 71$	To ₇₂	Sponsor	7.3269
63	1	$T_{61}: 72 \to 73$	To ₇₃	Godparent	7.1178
63	2	$T_{62}: T_{A61} \rightarrow T_{A60}$	To ₅₉	Resilient	14.4447
65	1	$T_{63}: D \rightarrow 74$	To ₇₅	Goddess	3.5589
65	2	$T_{64}: T_{A63} \rightarrow T_{A62}$	To ₆₅	Safety	18.0036
65	3	T_{65} : $T_{A64} \rightarrow T_{A59}$	To ₆₁	Tenure	181.9102
67	1	$T_{66}: D \rightarrow 76$	To ₈₀	Enabling	3.1360
67	3	T_{67} : $T_{A66} \rightarrow T_{A65}$	To ₆₉	Permissive	185.0462
69	1	$T_{68}: 77 \to 78$	To_{82}	Kingdom	7.4204

^{© 2019} by Bernhard Bierschenk All rights reserved.

69	3	т т т	To ₆₇	Immortals	192.4666
71	1	$T_{69}: T_{A68} \to T_{A67}$ $T_{70}: 81 \to 82$	To ₈₅	Commemorate	7.4673
71	3		To ₇₁	Charity	199.9339
73	1	$T_{71}: T_{A70} \rightarrow T_{A69}$ $T_{72}: 86 \rightarrow 87$	To ₁₃₈	Proclamation	7.4673
73	3		To ₇₇	Gracious	207.4012
75	1	$T_{73}: T_{A72} \to T_{A71}$ $T_{74}: 88 \to 89$	To ₁₂₅	Defacing	8.1124
75	3		To ₇₃	Godparent	215.5136
77	1	T_{75} : $T_{A74} \rightarrow T_{A73}$	To ₉₂	Ruin	8.3838
77	3	T_{76} : 90 \rightarrow 91	To ₇₅	Goddess	223.8974
79	1	T_{77} : $T_{A76} \rightarrow T_{A75}$	To ₁₄₈	Existence	8.4962
79	3	T_{78} : 92 \rightarrow 93	To ₇₉	Serenity	232.3936
81	1	$T_{79}: T_{A78} \rightarrow T_{A77}$	To ₉₈	Obligation	7.3970
83	1	$T_{80}: 97 \rightarrow 98$	To ₉₈	Obligation	7.4673
83	2	$T_{81}: 99 \to 100$	To ₈₀	Enabling	14.8643
83	3	$T_{82}: T_{A81} \rightarrow T_{A80}$	To ₈₁	Empowering	247.2579
85	1	$T_{83}: T_{A82} \rightarrow T_{A79}$	To ₁₅₈	Capability	2.2795
85	3	$T_{84}: D \rightarrow 102$	To ₁₅₈	Glory	249.5374
87	1	$T_{85}: T_{A84} \rightarrow T_{A83}$	To ₁₄₂	Resolution	3.2032
87	3	$T_{86}: D \rightarrow 104$	To ₁₄₂	Commemorate	252.7406
89	4	T_{87} : $T_{A86} \rightarrow T_{A85}$	To ₇₈	Transmission	5.5885
88	4	$T_{88}: D \rightarrow 75$	To ₈₉	Territory	258.3291
89	6	$T_{89}: T_{A86} \rightarrow T_{A85}$	To ₁₅₂	Impartiality	5.2752
88	6	T_{90} : D \rightarrow 103		Territory	263.6043
87	7	$T_{91}: T_{A90} \rightarrow T_{A89}$	To ₈₉	Inheritance	10.6681
87	6	$T_{92}: D \rightarrow 11$	To ₁₂	Continue	274.2724
85	7	$T_{93}: T_{A92} \rightarrow T_{A91}$	To ₉₁	Firmness	3.3332
85	!	T_{94} : D \rightarrow 57	To ₅₅	Judiciousness	277.6094
83	6 7	$T_{95}: T_{A94} \rightarrow T_{A93}$	To ₉₅	Consistency	10.3716
83	6	$T_{96}: D \rightarrow 101$	To ₁₆₄ To ₉₇	•	287.9810
81	7	T_{97} : $T_{A96} \rightarrow T_{A95}$	To ₈	Respect Blameless	16.5418
81	6	$T_{98}: D \rightarrow 8$	To ₉₉	Obedience	304.5228
79	7	$T_{99}: T_{A98} \rightarrow T_{A97}$	To ₁₄	Conservation	1.1031
77	7	$T_{100}: D \to 15$	To ₃₀	Astuteness	1.1895
77	6	$T_{101}: D \to 33$		Character	2.2926
75	7	$T_{102}: T_{A101} \to T_{A100}$	To ₁₀₁	Worship	2.2920
75	7	$T_{103}: 61 \to 62$	To ₆₂	Noblewoman	2.3314
75	6	$T_{104}: 63 \rightarrow 64$	To ₆₃	Impartiality	4.6628
73	5	$T_{105}: T_{A104} \to T_{A103}$	To ₁₀₅ To ₁₀₃	Prescription	6.9554
71	7	$T_{106}: T_{A105} \to T_{A102}$	To ₆₃	Noblewoman	1.1657
71	5	T_{107} : D \rightarrow 65	To ₁₀₈	Impropriety	8.1211
69	7	$T_{108}: T_{A107} \rightarrow T_{A106}$	To ₈₈	Preclusion	1.1657
69	5	T_{109} : D \rightarrow 83	To ₁₁₀	Well-being	9.2868
67	7	$T_{110}: T_{A109} \to T_{A108}$	To ₁₁₀	Proficiency	0.8846
67	5	T_{111} : D \rightarrow 94	To ₁₃₂	Well-being	10.1714
65	7	$T_{112}: T_{A111} \to T_{A110}$	To ₁₀₀	Delineation	0.8580
65	5	T_{113} : D \rightarrow 105	To ₁₁₂	Eternal	11.0294
63	7	$T_{114}: T_{A113} \to T_{A112}$	To ₉₆	Retain	-2.1676
63	5	T_{115} : 95 \rightarrow 96	To ₁₁₅	Devotion	8.8618
61	7	$T_{116}: T_{A115} \rightarrow T_{A114}$ $T_{117}: 84 \rightarrow 85$	To ₁₁₅	Territory	-2.3590
61	5		To ₁₁₈	Steadiness	6.5028
59	7	$T_{118}: T_{A117} \rightarrow T_{A116}$ $T_{119}: D \rightarrow 16$	To ₁₁₈	Reiteration	-1.2422
59	5		To ₁₆₂	Certificate	5.2606
57	7	$T_{120}: T_{A119} \rightarrow T_{A118}$ $T_{121}: D \rightarrow 106$	To ₁₀₀	Delineation	-1.4872
57	5			Impression	-3.7734
31	J	$T_{122}: T_{A121} \to T_{A120}$	To ₁₂₂	mpression	-3.113 4

32 Bernhard Bierschenk

55	7	$T_{123}: D \to 17$	To ₁₄₆	Subservience	-3.2420
55	5	$T_{124}: T_{A123} \to T_{A122}$	To ₁₂₄	Worry	0.5314
53	7	$T_{125}: D \to 107$	To ₁₀₀	Delineation	-3.8324
53	5	$T_{126}: T_{A125} \rightarrow T_{A124}$	To ₁₂₆	Obliterate	-3.3010
51	7	$T_{127}: D \to 18$	To ₁₄	Conservation	-6.0052
51	5	$T_{128}: T_{A127} \rightarrow T_{A126}$	To ₁₂₈	Discharge	-9.3062
49	7	$T_{129}: D \to 108$	To ₁₀₂	Commandment	-6.1776
49	5	$T_{130}: T_{A129} \rightarrow T_{A128}$	To ₁₂₈	Discharge	-15.4838
47	7	$T_{131}: 19 \rightarrow 20$	To ₁₇	Ruling	-16.7008
47	5	$T_{132}: T_{A131} \rightarrow T_{A130}$	To ₁₃₀	Power	-32.1846
45	7	T_{133} : 109 \rightarrow 110	To ₁₀₄	Justness	-17.0456
45	5	$T_{134}: T_{A133} \rightarrow T_{A132}$	To ₁₃₂	Proficiency	-49.2302
43	7	$T_{135}: D \to 21$	To ₁₅₆	Conviction	-10.3502
43	5	$T_{136}: T_{A135} \rightarrow T_{A134}$	To ₁₃₄	Recognition	-59.5804
41	7	$T_{137}: D \to 111$	To ₁₀₆	Propriety	-10.8680
41	5	$T_{138}: T_{A137} \rightarrow T_{A136}$	To ₁₃₆	Dethrone	-70.4484
39	7	$T_{139}: 22 \rightarrow 23$	To ₂₁	Mediator	-25.4102
39	5	$T_{140}: T_{A139} \rightarrow T_{A138}$	To ₁₃₈	Proclamation	-95.8586
37	7	$T_{141}: D \to 24$	To ₂₁	Mediator	-12.7051
37	5	$T_{142}: T_{A141} \to T_{A140}$	To ₁₄₀	Decent	-108.5636
35	7	$T_{143}: 112 \rightarrow 113$	To ₁₀₇	Expatriate	-26.4264
35	5	$T_{144}: T_{A143} \to T_{A142}$	To ₁₄₂	Resolution	-134.9900
33	7	$T_{145}: D \to 114$	To ₁₀₇	Expatriate	-13.2132
33	5	$T_{146}: T_{A145} \to T_{A144}$	To ₁₄₄	Stipulation	-148.2032
31	7	$T_{147}: D \to 25$	To ₂₄	Indentation	-15.1986
31	5	$T_{148}: T_{A147} \rightarrow T_{A146}$	To ₁₄₆	Subservience	-163.4018
29	7	$T_{149}: 115 \rightarrow 116$	To ₁₀₉	Riches	-31.1168
29	5	$T_{150}: T_{A149} \rightarrow T_{A148}$	To ₁₄₈	Existence	-194.5186
27	7	$T_{151}: D \to 26$	To ₂₄	Indentation	-17.9617
27	5	$T_{152}: T_{A151} \rightarrow T_{A150}$	To ₁₅₀	Fulfilment	-212.4863
25	7	$T_{153}: D \to 27$	To ₂₆	Treasure	-19.5533
25	5	$T_{154}: T_{A153} \rightarrow T_{A152}$	To ₁₅₂	Exhibition	-232.0336
24	4	$T_{155}: T_{A154} \rightarrow T_{A99}$	To ₁₀₁	Character	72.4892